



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2020-1006; Project Identifier 2019-CE-047-AD; Amendment 39-21855; AD 2021-25-11]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Piper Aircraft, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 78-02-03, which applied to all Piper Aircraft, Inc. (Piper) Model PA-23-250 airplanes. AD 78-02-03 required repetitively inspecting the stabilator tip tube and weight assemblies for cracks, inspecting for missing rivets and screws, replacing the forward rib/horn assemblies, and reinforcing the mounting. Since AD 78-02-03 was issued, Piper developed a newly-designed stabilator, which is not subject to the unsafe condition, and revised its service information. This AD retains the actions of AD 78-02-03, but reduces the applicability and requires the actions in the revised service information. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, FL 32960; phone: (772) 299-2141; website: <https://www.piper.com/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817)

222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1006.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1006; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** John Marshall, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5524; fax: (404) 474-5605; email: [john.r.marshall@faa.gov](mailto:john.r.marshall@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by superseding AD 78-02-03 [Reg. Docket No. 77-EA-81, Amendment 39-3128] (43 FR 3079, January 23, 1978) (AD 78-02-03). AD 78-02-03 applied to all Piper Model PA-23-250 airplanes and required repetitively inspecting both the stabilator tip tube and weight assemblies for cracks. For different groups of serial-numbered airplanes, AD 78-02-03 required a one-time inspection of the stabilator tip ribs for missing rivets and screws, replacement of the forward rib/horn assemblies, and reinforcement of the mounting. The repetitive inspections in AD 78-02-03 for all serial-numbered airplanes had no terminating action and were required regardless of any corrective actions performed.

The NPRM published in the *Federal Register* on September 16, 2021 (86 FR 51636). The NPRM was prompted by Piper developing a newly-designed stabilator, which is not subject to the unsafe condition, and revising its service information. The FAA determined the applicability of AD 78-02-03 should be revised to exclude airplanes beginning with serial number 27-7954122, which were manufactured with the stabilator design change. In the NPRM, the FAA proposed to retain all of the requirements of AD 78-02-03 but reduce the applicability and update some of the service information that

would be required for compliance. The FAA is issuing this AD to address the unsafe condition on these products.

### **Discussion of Final Airworthiness Directive**

#### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

#### **Conclusion**

The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

### **Related Service Information under 1 CFR Part 51**

The FAA reviewed the following service documents required for compliance with this AD:

- Piper Service Bulletin (SB) No. 547, dated March 1, 1977, which contains instructions for inspecting the stabilator tip rib;
- Piper SB No. 569, dated August 24, 1977, which contains information for replacing the stabilator tab horn;
- Piper Service Letter No. 807A, dated September 8, 1977, which contains information for installing the stabilator outboard nose rib; and
- Piper SB No. 540B, February 9, 2021, which contains instructions for inspecting the stabilator tip tube and weight assembly and addressing any cracks found.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Other Related Service Information**

The FAA reviewed the following documents for information related to this AD:

- Piper SB 540, which contains instructions for inspecting and reinforcing the stabilator tip tube and weight assembly; and

- Piper Aztec Service Manual, Part Number 753-564, dated January 1, 2009.

Paragraphs 4-65 through 4-67 of this manual contain procedures for checking control surface balance.

### **Differences Between this AD and the Service Information**

Piper SB 540B specifies contacting Piper for repair instructions. This AD requires contacting the FAA for an approved repair method instead.

### **Costs of Compliance**

The FAA estimates that this AD affects 625 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per airplane</b>	<b>Cost on U.S. operators</b>
Inspect the stabilator tip tube and weight assembly	0.5 work-hour X \$85 per hour = \$42.50	Not applicable	\$42.50 per inspection cycle	\$26,562.50 per inspection cycle
Inspect the stabilator tip ribs	0.5 work-hour X \$85 per hour = \$42.50	Not applicable	\$42.50	\$26,562.50
Replace the stabilator tab forward rib/horn assemblies	4 work-hours X \$85 per hour = \$340	\$817	\$1,157	\$723,125
Install additional nose ribs	1 work-hour X \$85 per hour = \$85	\$367	\$452	\$282,500

The FAA estimates the following costs to do any necessary repairs or replacements that will be required based on the results of the inspection. The FAA has no way of determining the number of airplanes that might need these repairs or replacements:

#### **On-condition costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per airplane</b>
Repair stabilator tip	4 work-hours X \$85	\$80	\$420

tube and weight assemblies (airplanes without kit P/N 763 987)	per hour = \$340		
Install missing stabilator tip rib rivets and/or the stabilator tip tube and weight assembly attachment screws	1 work hour X \$85 per hour = \$85	\$39	\$124
Balance stabilator	5 work-hours X \$85 per hour = \$425	Not applicable	\$425

For airplanes with kit P/N 763 987, the cost to repair cracking may vary significantly from airplane to airplane, and therefore the FAA has no way of determining an estimated cost.

#### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

#### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 78-02-03 [Reg. Docket No. 77-EA-81, Amendment 39-3128] (43 FR 3079, January 23, 1978); and

b. Adding the following new airworthiness directive:

**2021-25-11 Piper Aircraft, Inc.:** Amendment 39-21855; Docket No. FAA-2020-1006; Project Identifier 2019-CE-047-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 78-02-03 [Reg. Docket No. 77-EA-81, Amendment 39-3128] (43 FR 3079, January 23, 1978) (AD 78-02-03).

#### **(c) Applicability**

This AD applies to Piper Aircraft, Inc., Model PA-23-250 airplanes, serial numbers 27-7654001 through 27-7954121, certificated in any category.

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code 5510, Horizontal Stabilizer Structure.

**(e) Unsafe Condition**

This AD was prompted by reports of cracks developing on the stabilator structure. The FAA is issuing this AD to prevent weakening of the stabilator structure and to detect and correct cracks on the stabilator tip tube and weight assembly. The unsafe condition, if not addressed, could cause weakening of the complete structure and lead to loss of the trim tab and counter balance weight, which may result in reduced airplane control.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Previously Required Actions Retained from AD 78-02-03**

(1) Within 50 hours time-in-service (TIS) after January 26, 1978 (the effective date of AD 78-02-03), do the following inspections and modifications.

(i) For airplanes with serial numbers 27-7654001 through 27-7754054, inspect both stabilator tip ribs for missing rivets and missing tube and weight assembly attachment screws and if necessary alter in accordance with Piper Service Bulletin (SB) 547, dated March 1, 1977.

(ii) For airplanes with serial numbers 27-7654001 through 27-7754127, 27-7754130, 27-7754131, 27-7754133 through 27-7754136, and 27-7754138 through 27-7754144, replace the right and left stabilator tab forward inboard rib/horn assemblies by installing Piper Kit 761 143 or equivalent kit in accordance with Piper SB 569, dated August 24, 1977.

(iii) For airplanes with serial numbers 27-7654001 through 27-7754041 equipped with stabilators Piper part number (P/N) 15658-2, 15658-3, 15658-22 or 15658-23, reinforce the mounting of the stabilator tube and weight assemblies by installing additional nose-ribs with Piper Kit 761 141 or equivalent kit in accordance with Piper Service Letter 807A, dated September 8, 1977.

(2) Before further flight after completing the alterations in paragraphs (g)(1)(ii) and (iii) of this AD, balance the stabilator.

**(h) Inspection of Stabilator Tip Tube and Weight Assembly**

Within 10 hours TIS after the effective date of this AD or within 100 hours TIS after completing the last inspection required by paragraph (a) of AD 78-02-03, whichever

occurs later, and thereafter at intervals not to exceed 100 hours TIS, inspect the left and right stabilator balance weight assemblies for cracks and complete any necessary repairs by following Parts I and II of the Instructions in Piper SB No. 540B, dated February 9, 2021, except you are not required to contact Piper for repair instructions. Instead, repair in accordance with FAA-approved procedures.

**(i) Credit for Previous Actions**

You may take credit for the initial inspection and corrective actions required by paragraph (h) of this AD if you performed those actions before the effective date of this AD using Piper SB No. 540, dated January 4, 1977, or SB No. 540A, dated October 20, 1980.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Atlanta ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) For service information that contains steps that are labeled as Required for Compliance (RC), the following provisions apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.



**(k) Related Information**

For more information about this AD, contact John Marshall, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5524; fax: (404) 474-5605; email: john.r.marshall@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Piper Service Bulletin No. 547, dated March 1, 1977.

(ii) Piper Service Bulletin No. 569, dated August 24, 1977.

(iii) Piper Service Letter No. 807A, dated September 8, 1977.

(iv) Piper Service Bulletin No. 540B, February 9, 2021.

(3) For the service information identified in this AD, contact Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, FL 32960; phone: (772) 299-2141; website: <https://www.piper.com/>.

(4) You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on December 3, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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